



US Army Corps
of Engineers
Seattle District

Notice of Preparation & Clean Water Act Public Notice

Planning Branch
P.O. Box 3755
Seattle, WA 98124-3755
ATTN: Jeff Laufle, PM-PL-ER

Public Notice Date: April 11, 2008
Expiration Date: May 12, 2008
Reference: PL-08-05
Name: Hoodoo Creek Bank Stabilization

Interested parties are hereby notified that the U.S. Army Corps of Engineers, Seattle District (Corps) plans to prepare, pursuant to the National Environmental Policy Act (NEPA), an environmental assessment (EA) for a proposed bank stabilization project. The location is the Hoodoo Creek Wildlife Management Area, upstream of Albeni Falls Dam on the Pend Oreille River across from Laclede, Bonner County, Idaho. Erosion of the shoreline is ongoing, and threatens the integrity of Corps fee-owned land. The Corps is proposing to stabilize about 500 feet of shoreline using quarry spalls and riprap laid on filter cloth.

AUTHORITY

The Albeni Falls Dam Project was authorized under the Flood Control Act of 17 May 1950 (Public Law 516, 81st Congress, 2nd Session) in accordance with Senate Document 9, 81st Congress, 1st Session, as part of a comprehensive plan for the development of the Columbia River System. Funds are appropriated each year by Congress for Operation and Maintenance of the Albeni Falls Dam Project. The Corps is proposing the bank stabilization project under the authority of this Act. Additionally, Section 110 of the National Historic Preservation Act provides authority to perform this work to protect historic properties.

BACKGROUND

Erosion from wave action has caused incremental bank failure along the south shore (left bank) of the Pend Oreille River within the boundaries of the Hoodoo Creek Wildlife Management Area. The compact clayey sediments at the site are subjected to inundation during the full summer pool elevation of 2,062+/- MSL and are stricken energetically by large waves caused by high winds or boat traffic during that period. Although water pressure holds the soil in place at high pool, when the pool is drawn down for the winter, the temporarily stabilized soils erode or slough off onto the beach vacated by the receding shoreline, especially when saturated by heavy fall precipitation. The site also is being affected by erosion within pipes created by burrowing animals and in shrinkage cracks in the clay substrate; both overland flow and hydraulic overpressure from wave action at the pipe entrance in the pool are leading to fairly rapid loss of upland area.

NEED AND PURPOSE

Corps land used for wildlife and other resource management purposes is being adversely affected by erosion along shorelines at Corp's Hoodoo Creek Wildlife Management Area. Upland habitat and other sensitive resources are being lost through undercutting, collapse and washout of shoreline sediments by waves and wakes at summer pool. Action is necessary to fulfill the Corp's land management responsibilities under several authorities (see Authority section above) by preventing degradation of the upland resources. The action also would improve water quality by reducing siltation of the reservoir at summer pool.

The purpose of the project is to curtail wave-caused erosion along 500 feet of shoreline at the Hoodoo Creek Wildlife Management Area, and to protect sensitive resources including a part of the early historic townsite of Sineacquoteen that is described by a prominent historical sign along Highway 2 just west of Laclede, Idaho.

PROPOSED ACTION

The Corps will consider different alternatives to fulfill the project purpose. Alternatives include:

- No Action: This alternative must be considered under NEPA. It would entail no action being taken, resulting in continued erosion of the bank, with potential for damage to landward resources.
- Anchored logs and filter fabric: Logs could be placed at eroding areas and anchored with buried cables. Filter fabric may be placed against the eroding face, but this may not be required if sedimentary conditions are right. Sediment would be trapped behind the anchored logs and vegetation would have a chance to grow in the trapped material, strengthening the bank. This method probably would not provide protection from the effects of piping in animal burrows. There would also be a good chance that a floating log would act as a mechanical follower to replicate wave energy and redirect it against the bank, exacerbating the erosion. A version of this approach, an experimental application of dual rows of biologs with interplantings of moisture-tolerant woody and herbaceous species was attempted along a lower bank immediately south of the current proposed project in 2005, but largely failed to achieve permanent stabilization.
- Gabions. In this alternative, the site bank would be prepared (leveled or filled to plane), filter fabric would be placed on the slope, and a large wire cube (gabion) would be filled with rock in place against the bank. This method would involve much hand labor. It may be particularly effective where the footing available for loose rock may be too narrow to support the mass of the rock section, or where rock spalls may be too small individually to resist removal by heavy wave or current action, or where a relatively narrow profile for the controlling structure is needed. The expense of this method would be much greater than loose rock.
- Wrapped and Layered Soil Blankets. This technique would be a variant of the gabion or reno mattress technique that uses filter fabric, coir fiber or synthetic landscaping cloth as a wrapping medium for soil or fine sediment with varying amounts of coarser fill instead of chain link fencing to enclose rock. Blankets would be laid in a

stair-stepped fashion, staked in place, and interlayered with moisture-tolerant vegetation. Within the Columbia River system, the technique recently has been used to stabilize an area near Asotin on the Snake River upstream from Lewiston, Idaho and a location near Richland Washington. It is relatively expensive and requires considerable hand labor for proper application, and has required maintenance.

- Rock riprap with filter blanket base (Preferred Alternative). The Corps would use barged-in placement of rock spalls and riprap along the affected area. Work by barge and crane would be necessary as road access is not available. Work would need to be timed carefully to follow the rising (spring 2009) or falling pool (fall 2008), as there is a relatively narrow vertical range that would afford access from the placement barge without working in water; therefore the work would need to be accomplished in concert with the spring refill or fall drawdown. The plan would use filter fabric covered by a 1-foot thick pad of 4" minus quarry spalls superposed by a final coat of 18-inch-minus Class III clean rock fill. Some freeboard or mounding would be needed to deal with wakes at high pool and prevent direct impact of wakes on the fine sediments behind the rock. Topsoil would be placed atop the rock matrix and would be planted with native vegetation; native vegetation also would be established along the bank next to the riprap.

ANTICIPATED IMPACTS

A preliminary assessment of impacts of the preferred alternative on resources in the project area has been made and is summarized in the following paragraphs.

Soils. The Preferred Alternative would stabilize the soils on the bank at the project site by shielding them from wave action. No replacement of soils would take place, and therefore the character of the underlying soils would remain the same.

Hydrology and Geology. Under the Preferred Alternative, all applicable best management practices would be in effect throughout the construction process. With the reduction of sediment from the erosion process, the area immediately in front of the bank stabilization structure may deepen over time. Substantial lateral transport of fine sediment in this bay has been observed during monitoring of an adjacent biologically-based stabilization measure. As waves and wind exert effects on this area after construction, there is potential for the sediment that has settled in the shallow area to disperse into the deeper portions of the river. This sediment should pose no problem with hydrology or the geology of this location.

Water Quality. No significant long-term adverse impacts to water quality are expected as a result of the bank stabilization work. Construction may cause short-term impacts to local water quality. Fill placement would likely cause a temporary increase in turbidity as soils are disrupted by clearing and filling and construction sediment runoff enters into the lake. Only contaminant-free construction materials would be used. Turbidity during project construction would be monitored; if maximum state water quality standards for turbidity are exceeded, project work would be halted until the standards are met and actions are taken to avoid conditions that led to exceedance.

Pursuant to the Clean Water Act, a Section 404(b)(1) evaluation is being prepared, and a Sec. 401 water quality certification will be obtained from Idaho Department of Environmental Quality prior to the commencement of any work.

Beneficial impacts to water quality from construction activities include the curtailment of sediment plumes and turbidity associated with the sloughing bank.

Wetlands. Under the Preferred Alternative, rock placement would cover about 7,500 square feet (0.17 of an acre) of the riverbed, which is classified as wetland. Because this area is seasonally inundated, the rock would be fully submerged up to about elevation 2062' by mid to late June. The Corps has designed mitigation for this loss of the characteristic substrate. Plantings at the top of the bank would mitigate for effects to the shoreline habitat. A Clean Water Act Section 404(b)(1) analysis will be prepared in parallel with the Environmental Assessment.

Bank stabilization would decrease the likelihood of additional soil loss and erosion of habitats inland of the bank stabilization area. Hydraulic connection between the river and the inland wetland would be maintained through the interstices of the rock. Wave-induced erosion of the emergent wetland would be prevented over time.

Fish and Wildlife. A number of native and nonnative fish species occur in the project area. Waterfowl and other wildlife are also present.

There is no designated in-water work window in the Pend Oreille River above Albeni Falls Dam. To the extent that fish are in the local area during construction, there should be little impact other than temporary disturbance from short-term operation of machinery. Stormwater runoff would be controlled via best management practices, and spill prevention and containment measures would be in place and active. Due to the scheduled timing of the in-water portion of construction, any effects to fish would be temporary and minor, and primarily would occur during construction. Any disturbance during construction to bull trout is expected to be minor and temporary, and it is expected they would avoid the area.

Wildlife impacts would be temporary and minor, consisting of local disturbance from construction in the form of noise and mechanized activity. Bald eagles, a protected species, are known to nest approximately two miles northeast of the site. Nest construction activity is known to have occurred within one half mile southwest of the project location and one mile north, but these activities have resulted in no known occupancy of nest sites or reproduction attempts.

Species listed under the federal Endangered Species Act (ESA) with a potential to occur within the project area include endangered woodland caribou (*Rangifer tarandus caribou*), threatened Canada lynx (*Lynx canadensis*), threatened grizzly bear (*Ursus arctos*), and threatened bull trout (*Salvelinus confluentus*) (USFWS 2008). Critical habitat has been designated for bull trout and Canada lynx, but does not include the project area. Bull trout are present much of the year in the project vicinity. Woodland

caribou, Canada lynx, and grizzly bear are not expected to be in the project vicinity at all, due to their specialized habitat requirements and/or intolerance of human activity. The proposed project may affect, but is not likely to adversely affect bull trout. The project would have no effect on woodland caribou, Canada lynx, or grizzly bear. The proposed project would have no effect on bull trout critical habitat or on Canada lynx critical habitat. Long-term effects to fish and wildlife due to the change in shoreline character are expected to be less than significant with planting mitigation.

Cultural Resources. Under the Preferred Alternative, all preliminary and construction work would take place on Federal fee land at a prehistoric and early historic archaeological site (Sineaquiteen) that is eligible for the National Register. The Corps asserts that the proposed erosion control work would have "no adverse effect." The proposed treatment would substantially reduce and probably prevent further adverse effects caused by operation of the Albeni Falls Dam project's reservoir within the treated area. Construction would be monitored during placement by qualified staff to assure that no inadvertent immediate adverse effects occur on the site

Land Use and Recreation. Neither the construction activities nor the long-term effect of the project would change the land use designations on the property. The property would remain as a recreation area within Corps ownership, with all uses still viable after the construction process is completed. Nearby urban features and transportation corridors (railroad and highways) would not be affected by the project. Over the long term, recreation may benefit from the project somewhat due to elimination of sediment entering the water and stabilization of the shoreline.

Cumulative Impact. Riprap along shorelines has several negative ecological effects associated with it. The Pend Oreille River upstream of Albeni Falls Dam has approximately 115 miles of shoreline (USACE 1981). About 10% of the river's shoreline consists of boulders and riprap (IDEQ 2001), and recent annual work has armored about 1% per year.

Cumulative hydrological impacts of using riprap for bank protection along the Pend Oreille River could include the following: (1) scour and transporting of bank material (in this case, containing sensitive cultural deposits) cannot occur naturally in the areas of riprap, (2) habitat complexity would decrease along armored banks, and (3) increased velocity past riprap can cause scour elsewhere as stream energy is transferred downstream (Crandall et al. 1984). In this case, there is a relatively slow eddy in the bay at high pool and outward flow enters the main channel a short distance from the point.

Riprap also affects biological community assemblages. The preferred alternative may contribute to a cumulative net loss of emergent wetlands along the shoreline of Lake Pend Oreille. Here, very little vegetation exists in the emergent zone, and most of it is terrestrial species on collapsed banks. However, upland wetlands, soils and cultural resources would be protected from loss through erosion.

The acute cumulative impacts from the stabilization work, such as increased noise, emissions, and traffic disruptions that may occur if other local construction is done simultaneously are expected to be temporary and insignificant.

Cumulative impacts from increasing the total length of armored shoreline would be minimized by plantings of native vegetation on the upland side of the project, to provide some riparian shade, cover and wildlife habitat, in addition to providing terrestrial nutrients and food resources for fish.

EVALUATION

The Corps has made a preliminary determination that the environmental impacts of the proposal can be adequately evaluated under the National Environmental Policy Act through preparation of an environmental assessment (EA). Preparation of an EA addressing potential environmental impacts associated with the levee rehabilitation project is currently underway.

The Corps will review the work for substantive compliance with Section 10 of the Rivers and Harbors Act.

The project will involve a discharge of dredged or fill material into waters of the United States that will be evaluated for substantive compliance with guidelines promulgated by the Environmental Protection Agency under authority of Section 404(b)(1) of the Clean Water Act.

The Corps will request a certification that the project provides reasonable assurance of compliance with the Water Quality Standards of Idaho State. The Idaho Department of Environmental Quality will review this work for compliance with the applicable water quality standards pursuant to Section 401 of the Clean Water Act.

In accordance with Section 7(a)(2) of the Endangered Species Act, the Corps has drafted a Biological Evaluation and has sought informal consultation with the U.S. Fish and Wildlife Service, regarding the impact of the project on listed species.

In accordance with the provisions of the National Historic Preservation Act of 1966, as amended, and Corps Historic Preservation regulations, the Corps is coordinating this plan with the Idaho SHPO and Indian tribes' historic preservation specialists, and will maintain contact with the SHPO and those specialists throughout planning, design, and construction. As of the date of this notice, preliminary notice of concurrence on the Corps assessment of effects of the Preferred Alternative has been received from the Idaho SHPO (March 19, 2008), and concurrence has been received from the Kalispel Tribe (March 19, 2008).

The decision whether to conduct the project will be based on an evaluation of the probable impact on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably

may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered; among these are: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare of the people.

Any person who has an interest that may be affected by this disposal of fill or dredged material may request a public hearing. The request must be submitted in writing to the District Engineer within the comment period of this notice, and must clearly set forth the following: the interest that may be affected, the manner in which the interest may be affected by this activity, and the particular reason for holding a public hearing regarding this activity.

The Corps invites submission of factual comment on the environmental impact of the proposal. Comments will also be considered in determining whether it would be in the best public interest to proceed with the proposed project. The Corps will consider all submissions received before the expiration date of this notice. The nature or scope of the proposal may be changed upon consideration of the comments received. The Corps will initiate an Environmental Impact Statement (EIS), and afford all the appropriate public participation opportunities attendant to an EIS, if significant effects on the quality of the human environment are identified and cannot be mitigated.

Submit comments to this office, Attn: Environmental Resources Section, no later than May 12, 2008, to ensure consideration. Requests for additional information should be directed to Jeff Laufle, Environmental Coordinator at 206-764-6578, or Rhonda Lucas, 206-764-3512.

REFERENCES

- Crandall, D.A., R.C. Mutz and L. Lautrup. 1984. The Effects of Hydrologic Modifications on Aquatic Biota, Stream Hydrology, and Water Quality: A Literature Review. Illinois Environmental Protection Agency, Division of Water Pollution Control. Springfield, Illinois.
- Idaho Department of Environmental Quality. 2001. Clark Fork/Pend Oreille Sub-Basin Assessment and Total Maximum Daily Loads. Coeur d'Alene, ID.
- USACE (US Army Corps of Engineers). 1981. Albeni Falls Project Master Plan, Pend Oreille River, Idaho. Memorandum 25. Seattle, WA.
- USFWS (US Fish and Wildlife Service). 2008. Bonner County Idaho species list. <http://www.fws.gov/easternwashington/documents/BONNER%20COUNTY%201-10-08.pdf>. Accessed March 26, 2008.

FIGURES

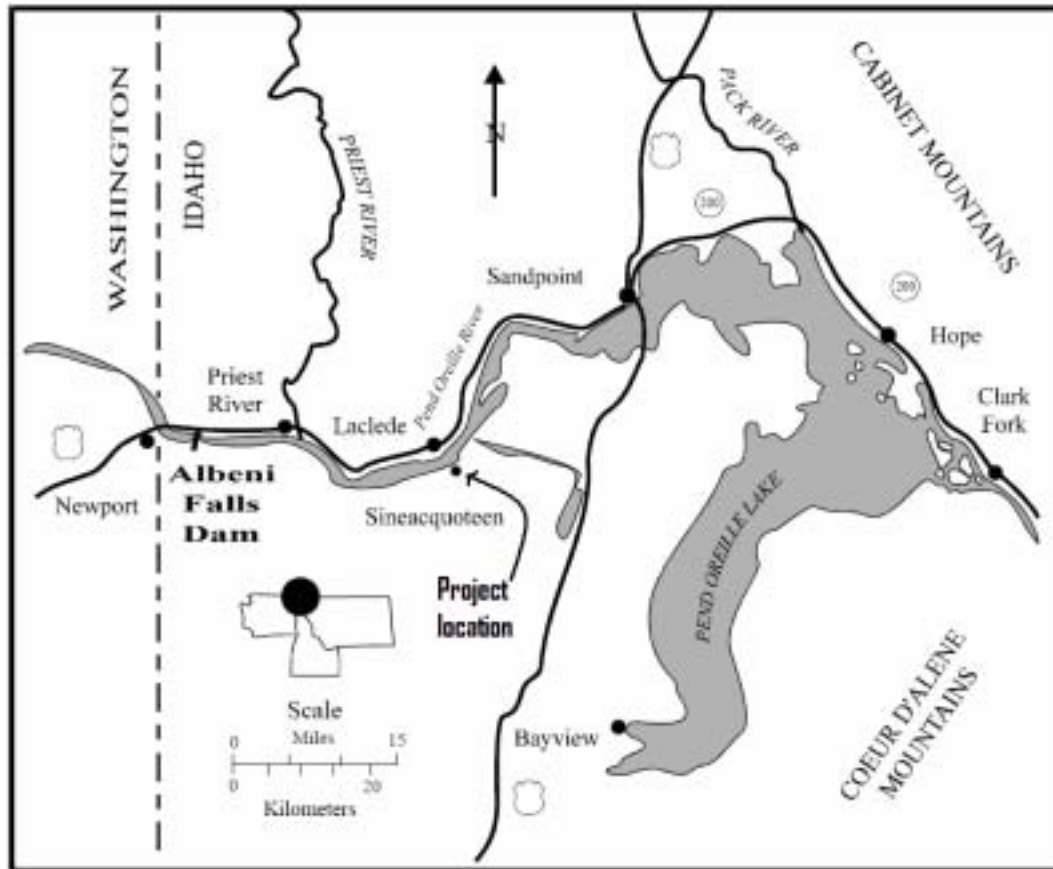


Figure 1. Project area location map



Figure 2. Upper limit of bank protection